


Prospects of the production...

P/013/60/000/002/002/003  
B124/B220

improved quality of liquid fuels and other products obtained from petroleum. Czechoslovakia is not able, however, to reach the targets in the development of the petrochemical industry by herself, but only in cooperation with the Council for Mutual Economic Aid, where also the collaboration between the PRL (Polish People's Republic) and the Czechoslovakian Republic plays an important part. There are 5 figures.



Card 3/3

VALDAY, D. (Leningrad).

Modest toiler. Prom.koop. no.7:31 J1 '57.  
(Levikov, Iosif Moiseevich)

(MLRA 10:8)

VALDAY, D.

Contrary to the statute. Prom.koop. 14 no.2:32 7 '60.  
(MIRA 13:5)

1. Zamestitel' predsedatelya pravleniya gorpromsoveta po  
orgmassovoy rabote i kadram, Leningrad.  
(Leningrad--Cooperative societies)

VALDAY, D.

In the interest of the Soviet people. Prom.koop. 14 no.9:2-3 S  
'60. (MIRA 13:9)

1. Zamestitel' predsedatelya pravleniya gorpromsoveta po orgmassovoy  
rabote i kadram, g.Leningrad.  
(Leningrad--Manufactures)

VALDAYEV, M.M.

Two formulas for determining the index of polytropic curves  
[with summary in English]. Inzh.-fiz.sbur. no.12:83-84 ' 58.

(MIRA 11:12)

1. TSentral'noye proyektno-konstruktorskoye byuro po portam,  
g. Leningrad.

(Thermodynamics--Graphic methods)

VALDAYEV, M.M., inzh.

Use of steam motors on ships. Sudostroenie 24 no.2:64-67 F '58.  
(Germany, West--Steam engines) (MIRA 11:3)

VALDAYEV, M.M., inzh.

Enclosed steam-driven winches used on ships. Sudostroenie 24  
no.10:64-66 O '58. (MIRA 11:12)  
(Ships--Equipment and supplies) (Winches)

VALDAYEV, M., inzhener, aspirant

Operating characteristics of the VMPO-40/60 machine and  
adjustment of the regulator. Mor. flot 22 no.8:32-34 Ag '62.  
(MIRA 15:7)

1. Zaochnoye otdeleniye Leningradskogo vysshego inzhenernogo  
morskogo uchilishcha im. admirala Makarova.  
(Steam engines)



VALDAYEV, M.M., inzh.

Methods of regulating the power of steam engines in marine electric power plants. Sud. sil. ust. no.2:22-29 '63. (MIRA 17:1)

1. Leningradskoye vyssheye inzhenernoye morskoye uchilishche im. admiral Makarova.

VALDAYSKIY, N. P.

Forestry Engineering

Use of machines on route laying and drainage work. Les. khoz. 5 No. 4 1952.

9. Monthly List of Russian Accessions, Library of Congress, August <sup>2</sup>1953, Uncl.

L 00552-66

ACCESSION NR: AP5018821

UR/0354/65/000/007/0060/0063  
65.011.54

AUTHORS: Valdayakiy, N. P. (Chief engineer); Chukichev, A. N. (Senior design engineer) 11  
B

TITLE: Universal attachment system for hauling tractor TDT-75

SOURCE: Lesnoye khozyaystvo, no. 7, 1965, 60-63

TOPIC TAGS: tractor attachment, forestry machinery, equipment mounting/ TDT 75 tractor, TDT 60 tractor, NZ 60 attachment

ABSTRACT: A universal attachment system NZ-60 (see Fig. 1 on the Enclosure) for use with tractor TDT-75 was developed at LenNIILKh. The system consists of the following basic components: stationary bracket 1 (attached to the tractor by bars 20), central drawbar 6 (adjustable length with interchangeable connector 4), movable frame 12 (connected through 17 to the actuating cylinder or winch of the tractor and through chains 18 to the lower drawbars), and movable frame 14 (which provides vertical freedom for the lower drawbars 13 with interchangeable connectors 25). For single-point connection to the tractor, the central drawbar is removed and the lower drawbars are separated by adjustable rod 29, forming a triangle

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ACCESSION NR: AP5018821

which can swing up to 55° vertically and up to 35° in the horizontal plane. For two-point connection in the horizontal direction the central drawbar is again removed and the lower drawbars are used, while for vertical two-point connection the lower drawbars are joined in the center and the central drawbar serves as the second connection. For three-point connection all three drawbars are used. The attachment (which can also be used with tractor TDT-60) has the following characteristics: weight 550 kg, 2600 mm long, 1300 wide, 1500 high, maximum height of connection 1600 mm, lifting capacity 4000 kg. Orig. art. has: 3 figures.

ASSOCIATION: LenNILKh

SUBMITTED: 00

ENCL: 01

SUB CODE: IE

NO REF SOV: 000

OTHER: 000

Card 2/3

L 00552-66

ACCESSION NR: AP5018821

ENCLOSURE: 01

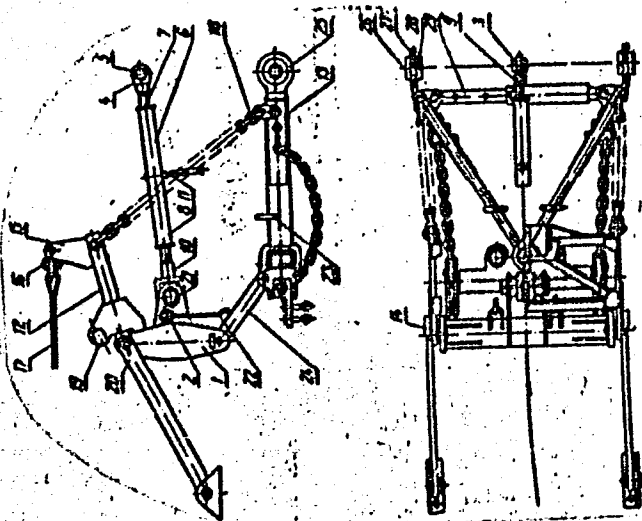


Fig. 1. Universal attachment  
EZ-60

Card 3/3

VAL'DBERG, A.Yu., inzh.; ZAYTSEV, M.M., inzh.; PADVA, V.Yu., inzh.;  
TEPLITSKIY, V.I., inzh.; TIMOFEYEV, N.S., inzh.

Results of comparative tests of cone cyclones with a spiral gas  
supply. Khim. i nef. mashinostr. no.6:3-5 D '64  
(MIRA 18:2)

VALDEK, R.G.

23-3-3/8

SUBJECT: USSR/Fuel, Oil Shale

AUTHORS: Valdek, R.G., Kirret, O.G., Lutskovskaya, N.L., Polikarpov N.Y.,  
Candidates of Technical Sciences

TITLE: On Some Physical and Physico-Chemical Properties of Estonian  
Oil Shale (Kukersite) and its Coke and Semi-Coke Products (O  
nekotorykh fizicheskikh i fiziko-khimicheskikh svoystvakh  
slantza-kukersita, yego koksa i polukoksa)

PERIODICAL: Izvestiya Akademii Nauk Estonskoy SSR, Seriya Tekhnicheskikh i  
Fiziko-Khimicheskikh Nauk, 1957, # 3, pp 229-244 (USSR)

ABSTRACT: Research has been carried out to investigate changes in the  
properties of oil shale and its coking products, in dependence  
on the composition of crude oil shale and on its thermal treat-  
ment conditions.  
Various samples were investigated: shale-coke obtained from  
the Kohtla-Jarve Plant chamber-ovens, semi-coke of Kivioli  
mines, as well as cokes and semi-cokes obtained by their retort-  
ing in a laboratory installation at 520°, 700°, and 900° C.  
The results of the research prove that heat conductivity of oil  
shale increases with the increase of its apparent specific gra-  
vity and decreases with the increase of its "kerogen"-content.

Card 1/3

23-3-3/8

TITLE:

On Some Physical and Physico-Chemical Properties of Estonian Oil Shale (Kukersite) and its Coke and Semi-Coke Products (O nekotorykh fizicheskikh i fiziko-khimicheskikh svoystvakh slantsa-kukersita, yego koksa i polukoksa)

By conversion of oil shale into semi-coke, its real specific gravity and porosity increase, and continue to increase with the rise of the coking temperature up to 900°C.

The apparent specific gravity and heat conductivity decrease while oil shale is converted into semi-coke. The reduction of semi-coke heat conductivity is due to the increase of its porosity in comparison with oil shale.

An analysis of shale-cokes has shown that changes on the composition of coke organic matter depend mainly on the coking temperature and only to a very small extent on the chemical composition of the oil shale.

Thermographic characteristics of oil shale and coke samples show the dependence of thermal effects on their composition.

An analysis of sieve fractions of crushed samples from Kohtla-Yarve chamber-oven coke and Kivioli tunnel-oven semi-coke has shown that the content of organic substances is higher in the finer fractions and that calorific values of the latter are

Card 2/3



TITLE:

23-3-3/8

On Some Physical and Physico-Chemical Properties of Estonian Oil Shale increases with the increase of its apparent specific gravity and decreases with the increase of its "kerogen"-

higher.

Sieve fractions of crushed coke were tested concerning their adsorbing abilities. It turned out that although coke adsorbs methylene blue it does not possess the ability to adsorb sulfur compounds from oil shale gasoline and cannot be used for its desulfurization.

The article contains 4 graphs and 11 tables. There are 10 references, 9 of which are Slavic.

ASSOCIATION: Institute of Power-Engineering of the Estonian Academy of Sciences.

PRESENTED BY:

SUBMITTED: On 1y December 1956

AVAILABLE: At the Library of Congress.  
Card 3/3

4(3)

SOV/23-59--2-1/8

AUTHORS: Kirret, O., Candidate of the Technical Sciences; Eisen, E. (Eyzem, Yu.I.); and Val'dek, R.G. (Val'dek, R.G.), Candidate of Technical Sciences

TITLE: Chemical Composition and Qualities of the Lighter Fraction of Tunnel Oven Oil Shale Gas-Benzine

PERIODICAL: Izvestiya Akademii nauk Estonskoy SSR, Seriya tekhnicheskikh i fiziko-matematicheskikh nauk, 1959, Nr 2, pp 74-77 (USSR)

ABSTRACT: For the definition of individual hydrocarbons of benzine, chromatographic absorptional analysis and a narrow-ranged fractioning were carried out, where- by the elementary composition of single fractions were determined. In the lighter fractions (boil- ing ranges 25-70°C and 70-95°C) of tunnel oven gas- benzine, the following individual hydrocarbons were found: pentene 1, n-pentane, pentne-2, cyclopentene, cyclopentadiene, cyclopentane, hexene-1, hexene-3, hexene-2, n-hexane, 2.3-dimethypentene-1, 5-methyl- hexene-2, 2-ethylpentene-1, 3-ethylpentane, heptene-1,

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SOV/23-59-2-1/8

Chemical Composition and Qualities of the Lighter Fraction of Tunnel Oven Oil Shale Gas-Benzine

and heptene-3. The chromatographic analysis showed that the fraction 95-130°C contains naphthene-paraffins - 20%, cycle olefines together with aliphatic olefines - 30-35%, and diolefines - 15-20%, as to the rest, the data are lacking. In the narrow-ranged fractions of saturated hydrocarbons of benzine (with the boiling ranges of 95-130°C), the following hydrocarbons occur:  $C_7H_{16}$ ,  $C_7H_{14}$  (cyclic combination),  $C_8H_{18}$ , and  $C_9H_{20}$ . The narrow-ranged fractions of unsaturated hydrocarbons of the same benzine (boiling ranges 95-130°C) contain hydrocarbons -  $C_7H_{14}$  and  $C_8H_{16}$ . There are 2 graphs, 7 tables and 2 references; and 2 Soviet references, 1 of which is in Estonian.

Card 2/2

VALDEK, R. G. and LUTSKOVSKAYA, N. L.

"Heat of decomposition of organic substances in Estonian flammable schists."

Report presented at the 1st All-Union Conference on Heat- and Mass- Exchange, Minsk, BSSR, 5-9 June 1961

VAL'DEK, R. G., and LUTSKOVSKAYA, N. L.

"On the Heat of Shales of the Organic Substance of Estonian,  
Shales Decomposition."

Report submitted for the Conference on Heat and Mass Transfer,  
Minsk, BSSR, June 1961.

VALDEK, R., kand.tekhn.nauk; LUTSKOVSKAYA, N.L., kand.tekhn.nauk;  
Prinipal uchastiye: VERK, A., inzh.

Thermal diffusivity of kukersite during heating and thermal  
decomposition. Eesti tead akad tehn fuus no.3:207-214 '61.

1. Academy of Sciences of the Estonian S.S.R., Institute of  
Energetics.

NESTEROV, M.; KHONKAYURI, P.; RODNOV, V.; VAL'FORS, V.; NICHKOV, V.;  
VALDEN, Yu.

Favorable prospects of Soviet-Finnish trade. Vnesh.torg. 30  
no.6:29-31 '60. (MIRA 13:6)

1. Predsedatel' Prezidiuma Vsesoyuznoy trgovoy palaty (for Nesterov). 2. Predsedatel' finsko-sovetskoy trgovoy palaty, general'nyy direktor Aktsionernogo obshchestva "Rauma-Repola" for Khonkayuri). 3. Predsedatel' Vsesoyuznogo Ob'yedineniya "Mashinexport" (for Rodnov). 4. General'nyy direktor Aktsionernogo obshchestva "Vyartsila-kontsern," chlen pravleniya finskosovetskoy palaty (for Val'fors). 5. Predsedatel' Vsesoyuznogo Ob'yedineniya "Eksportles" (for Nichkov). 6. Direktor-rasporядitel' Aktsionernogo obshchestva "Ob'yedinsennyye bumazhnyye fabriki," chlen pravleniya finsko-sovetskoy trgovoy palaty (for Valden).

(Russia--Commerce--Finland) (Finland--Commerce--Russia)

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 11, p 160 (USSR) SOV/137-57-11-21787

AUTHOR: Val'denberg, G. Ye.

TITLE: Automation of Welding Processes (Avtomatizatsiya svarochnykh protsessov)

PERIODICAL: Kolyma, 1955, Nr 12, pp 37-38

ABSTRACT: An account of experience of employing automatic welding at the "Marchekanskiy" plant. Conversion to automatic welding includes welding of boilers, receiver tanks, boiler shells, bilges, hearth plates, pipe screens, and other important components. The plant is engaged in adaptation and development of progressive methods of welding, automation of welding processes, and perfection of welding technology.

V. Ts.

Card 1/1



U.S. DEPT. OF STATE, L-1

VAL DENBERG, R.I., inzhener; ALEXANDROVICH, V.I., inzhener.

Rectangular, underground, electric current collector made of reinforced concrete, specially-rigid parts. Gor.khoz, Mosk. 25  
no.6:35-36 Je '51. (MLRA 10:9)  
(Electric current collectors)

VAL'DENBERG, Yu. S.

"A Specialized Mathematical Machine of Continuous Operation for the Solution of Integral Equations of Fredholm and Volterra's First and Second Type, as they often occur in Control Problems."

report presented at the Conference on Automation and Computation Engineering, Moscow, 5-8 March 1957. Organized by AU Sci. Eng. and Tech. Society for Apparatus Building.

VAL'DENBERG, YU. S. Cand Tech sci -- (diss) "Development of the theory  
and principles of the construction of computer <sup>methods</sup> for the solution of integral  
equations." Mos, 1958. 12 pp (Mos Order of Lenin and Order of Labor Red  
Banner Higher Tech School im N. E. Bauman), 150 copies (KL, 52-58, 101)

AUTHOR: Val'denberg, Yu.S. 30V/119-58-7-6/10

TITLE: The Use of a "Potentialoscope" for the Realization of an Iteration Process in a Mathematical Machine Which Operates Without Interruption (Primeneniye potentsialoskopa dlya realizatsii iterativnogo protsessa matematicheskoy mashinoy nepreryvnogo deystviya)

PERIODICAL: Priborostroyeniye, 1958, Nr 7, pp. 22-24 (USSR)

ABSTRACT: The process of iteration (solving of a problem by progressive approximation) can be realized by means of a closed circuit consisting of the computing part of a mathematical machine and a "memory".  
In the computing part the ordinates of the unknown function (vector) are determined one after another. They are then stored in the "memory" in order in due time again to be fed back into the computing part of the machine.  
As a memory a "potentialoscope" is recommended which consists of a large Braun tube, the luminous screen of which is replaced by a signal plate. The charges of the individual condensers forming the signal plate serve as a source for the "memory". A total

Card 1/2

The Use of a "Potentialoscope" for the Realization  
of an Iteration Process in a Mathematical Machine  
Which Operates Without Interruption

SOV/ 119-58-7-6/10

of 1024 cells with 32 lines for each unit is provided. The information is recorded by a double code (one or zero). The unknown function is thus represented by 32 ordinates, each row being used for the storage of one ordinate. The mode of operation of the potentialoscope (length of exposure of the unit condenser, amount of feed voltage etc.) is the same as in the "Strela" apparatus. There are 2 figures and 5 Soviet references.

1. Mathematical computers--Performance

Card 2/2

AUTHOR: Val'denberg, Yu. S. (Moscow) SOV/105-12-8-2/11

TITLE: A Method for Solving a Certain Class of Integral Equations by Means of Computers (Metod pribornogo resheniya odnogo klassa integral'nykh uravneniy)

PERIODICAL: Avtomatika i telemekhanika, 1958, Vol. 19, Nr 8, pp. 725-730 (USSR)

ABSTRACT: In this paper a method is given for the solution of linear integral equations by Fredholm and Volterra of first and second kind with a kernel of convolution type (1) and (2) by means of computer. The experimentally obtained dependences not subjected to a preceding approximation are introduced into the computer. The problem of finding one singular solution is solved. The integral equations are solved according to the method of successive approximations, an iteration method (Refs 2 and 4), the iteration according to Zeydel' being employed. The given integral equation is approximated by a system of 32 algebraic equations and this system is then solved according to the iteration method by Zeydel', following the algorithm of reference 3: (3), (4), (5) and (6). as initial approximation of the iteration method a zero vector

Card 1/3

ECV/103-19-8-2/11

A Method for Solving a Certain Class of Integral Equations by Means of  
Computers

is used. In such cases, where the zero vector leads to a divergence, the integral equation is solved in two stages. In the 2nd section the experimental checking of the convergence of the iterative process is treated. The two following problems are of basic importance in the development of a method for solving integral equations by means of a computer: 1) The creation of a memory. If the iteration method by Zeydel' is used, it is possible to arrive at comparatively simple circuits. 2) The creation of a kernel generator (the kernel being a function of two arguments). If the kernels are of convolution type the ordinary generator of the function of one argument can be employed, the convolution operation being secured by the necessary distribution of the impulses with respect to time (pulses controlling the operation of the computer). In this case the experimental dependences are used as the given functions of the integral equation. The fundamental principles of the given method (convergence of the iterative process according to Zeydel', stability of the closed system and others) were checked experimentally with a special model. In the last section further possibilities for the application of the computer are indicated. Thus it

Card 2/3

90V/103-19-0-2/11

A Method for Solving a Certain Class of Integral Equations by Means of Computers

is possible to solve integral equations with kernels, which are given analytically. These kernels are realized by computer amplifiers. V. V. Solodovnikov supervised the work. There are 2 figures and 9 references, 5 of which are Soviet.

SUBMITTED: March 2, 1957

1. Integral equations
2. Mathematical computers--Performance
3. Mathematical computers--Test results

Card 3/3





VALDENBERG, Y. S.

PHASE I BOOK EXPLOITATION

SOV/4986

Solodovnikov, Vladimir Viktorovich

Statisticheskaya dinamika lineynykh sistem avtomaticheskogo upravleniya (Statistical Dynamics of Linear Systems in Automatic Control) Moscow, Fizmatgiz, 1960. 655 p. 10,000 copies printed.

Ed.: O. K. Sobolev; Tech. Ed.: N. Ya. Muratova.

**PURPOSE:** This advanced textbook is intended for university engineering students, research scientists, and practicing engineers concerned with the design and calculation of the performance of linear control systems, particularly those subject to random inputs.

**COVERAGE:** The book deals with the mathematical theory, operating characteristics, and the design of linear servo-control systems, particularly those required to operate under conditions of random inputs. The book develops the usual theory of linear systems subject to specified input functions and then proceeds to extend

Card 1/19

Statistical Dynamics (Cont.)

SOV/4986

this theory with the methods of mathematical statistics and the theory of random processes. It is partially based on the contents of an earlier book of the author, entitled Vvedeniye v statisticheskuyu dinamiku sistem avtomaticheskogo upravleniya (Introduction Into The Statistical Dynamics Of Automatic Control Systems), published in 1952. This volume, however, has been enlarged to about twice the size of the previous text, and many chapters have been entirely rewritten. Included are completely new chapters dealing with problems of analysis and synthesis of systems with variable parameters, discrete systems, devices and methods of treatment of experimental data, the general theory of synthesis on the basis of the concepts of the theory of games and decision functions, the synthesis of servosystems, and the analysis and synthesis of variable and discrete systems. The following scientists participated in the writing of this book: A. M. Batkov (Chapters X and XI) and L. T. Kuzin (Chapters XII and XIII). A number of sections were written by the author jointly with other scientists: section 9 of Chapter IV, and sections 6 to 9 of Chapter V

Card ~~249~~

Statistical Dynamics (Cont.)

SOV/4986

with A. S. Uskov; section 18 Chapter VII with Yu. S. Val'denberg; sections 1, 2, 9 to 14 of Chapter VIII, and sections 1, 2, 6, of Chapter IX with P. S. Matveyev; and section 5 of Chapter IX with V. P. Alekperov. Section 4 of Chapter IX was written by E. N. Sorenkov. In addition to a very large number of footnotes, there are 154 references: 91 Soviet (18 of which are translations), 42 English, and 3 French.

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VALDENBERG, P.U.S.

BR

PHASE I BOOK EXPLOITATION

SOV/5962

Vsesoyuznoye soveshchaniye po vychislitel'noy matematike i primeniyu sredstv vychislitel'noy tekhniki, Baku, 1958.

Trudy (Transactions of the All-Union Conference on Computer Mathematics and Applications of Computers) Baku, Izd-vo AN Azerbaydzhanskoy SSR, 1961. 254 p. 500 copies printed.

Sponsoring Agency: Akademiya nauk Azerbaydzhanskoy SSR. Vychislitel'nyy tsentr.

Eds.: A.A. Dorodnitsyn, S.A. Aleskerov, and K.F. Shirinov; Ed. of Publishing House: A. Til'man; Tech. Ed.: T. Ismailov.

PURPOSE: The book is intended for mathematicians and other specialists interested in computer theory and uses for computers.

COVERAGE: The book contains the texts of 24 papers presented at the All-Union Conference on Computer Mathematics and Applications of Computers held in Baku, 3-8 Feb 1958. The "Resolution"

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Transactions of the All-Union (Cont.)

SOV/5962

of the conference, consisting of proposals for accelerating the development of computer mathematics and computer engineering, is also included.

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Transactions of the All-Union (Cont.)

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Val'denberg, Yu.S. Machine Solution of a Class of Integral Equations by Zeydel's Iterative Method

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Babushkin, M.N. Experience from Operations With the MPT-9 and IMT-5 Electronic Analog Computers and Possibilities for Enlarging the Scope of Their Application

240

Resolution

252

AVAILABLE: Library of Congress (Q476.V8 1958)

SUBJECT: Mathematics  
Computers and Computer Engineering

IS/dmp/bmc  
6-6-62

Card 6/6

41161

S/044/62/000/009/059/069  
A060/A000

16.4000  
9.7000

AUTHORS:

Solodovnikov, V.V., Batkov, A.M., Baburin, V.M., Val'denberg, Yu.S.,  
Matveyev, P.S., Pokrovskiy, A.N.

TITLE:

Analysis and synthesis of automatic control systems using the means  
of computer technology

PERIODICAL:

Referativnyy zhurnal, Matematika, no. 9, 1962, 43, abstract 9V229  
("Tr. I Mezhdunar. kongressa Mezhdunar. federatsii po avtomat.  
upr., 1960. (T. 4). Tekhn. sredstva avtomatiki", Moscow., AN SSSR,  
1961, 191 - 206. Discussion, 206 - 207)

TEXT:

The problem of analyzing an automatic control system which is af-  
fected by several perturbing forces reduces to the solution of integral equa-  
tions of the form:

$$R_{x_1 y_k}(t) = \int_0^{\infty} R_{y_k y_k}(t - \tau) K_k(\tau) d\tau \quad \text{for } i = 1, 2, \dots, n; \quad (1)$$

$k = 1, 2, \dots, m.$

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S/044/62/000/009/059/069  
A060/A000

Analysis and synthesis of automatic ....

The problem of system synthesis reduces to the solution of an integral equation

$$\int_0^T R(t - \tau) K(\tau) d\tau = F(t); \quad 0 \leq t \leq \infty; \quad (2)$$

with constraints of the form

$$\int_0^T f_1(\tau) K(\tau) d\tau = \mu_1. \quad (3)$$

The paper considers: first, the general method of solution in closed form of the class of synthesis problems which reduce to the integral equation (2); second, the application of the method of inverse systems to the analysis of linear systems by means of electronic simulating installations in the case of nonstationary random forces at the input; third, special-purpose computers elaborated by the authors and, fourth, some problems of applying general-purpose digital computers to the solution of problems which reduce to the expressions (1) and (2). The method of solution set forth does not require the application of artificial methods and includes as special cases all the analyzed problems of statistical dynamics in the class of systems with constant parameters. The theorems set forth in the article make it possible to: 1) determine the correlation

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Analysis and synthesis of automatic ....

S/044/62/000/009/059/069  
A060/A000

function of the output signal of an automatic control system with variable parameters in the presence of white noise at the input; 2) determine the differential equation of the shaping filter for a nonstationary stochastic process with a correlation function of the form

$$R(t, \tau) = \sum_{i=1}^n \varphi_i(t) \psi_i(\tau) \quad (t > \tau),$$

where  $\varphi_i$  and  $\psi_i$  are linearly independent functions continuously together with their derivatives;  $n$  is bounded. A similar method may be applied to automatic control systems containing inertialess elements. The system of equations thus obtained may be solved with the aid of a simulator. The correllograph described is a special-purpose analog computer. It is designed for the computation of correlation functions of processes with a low-frequency spectrum of 0 + 20 cps. The error of the solution is 5 + 10% of the maximum value. The synthesizer is a special-purpose computer for the solution of linear one-dimensional integral equations of the Fredholm and Volterra type of the first and second kind with a convolution kernel and also for calculating autocorrelation and correlation

Card 3/4

Analysis and synthesis of automatic ....

S/044/62/000/009/059/069  
A060/A000

functions. The time of solving an equation is  $10 + 40$  sec. The error of solution of the problems is  $5 + 10\%$ . The method of solving the integral equations is based upon approximating them with a system of algebraic equations and solving this system by Zaydel's iteration method. The possibility of applying general-purpose computers to the analysis and synthesis of automatic control systems is analyzed, and the required sequence of operations is proposed.

A.D. Zaikin

[Abstracter's note: Complete translation]

Card 4/4

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11876  
S/588/62/000/005/002/004  
1011/1242

AUTHORS: Val'denberg, Yu.S., Lenskiy, V.L.

TITLE: Some features of the application of digital techniques  
to the solution of statistical problems

SOURCE: Avtomaticheskoye upravleniye i vychislitel'naya tekhnika.  
no.5. Moscow, 1962. 203-230

TEXT: Universal digital computers cannot be used efficiently for solving statistical problems for several reasons. Many specialized analogue computing devices have been designed lately. When several statistical problems of different kinds with related algorithms are to be solved the design and construction of a digital device are worthwhile. A maximally simplified control unit and a closely commutated program result in these cases and eliminate programming. Such a digital device will solve a broader range of problems more reliably with a simpler scaling and adjusting procedure than its analogue counterpart. The determination of the dynamic characteris-

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1011/1242

Some features of the application...

tics of control objects consists of the following steps: (1) recording the input and output random processes and their transformation into a form convenient for further computations; (2) computation of the input self-correlation and the input-output cross-correlation functions; (3) solution of an integral equation and determination of the transfer function of the investigated system. In step (1) the random processes are recorded on film by an ordinary loop oscillograph. The recording appears in the form of an opaque curve on the transparent film. The film is passed between a scanning beam and a photoelectric element yielding short pulses with the phase proportional to the read ordinates. Some 1.5-2 thousand ordinates, each encoded by a 4-bit word (15 quantization levels), are taken. The memory has a capacity of 3 to 4 thousand 4-bit words. Cathode-ray storage tubes are used as memory devices in the proposed design. The memory is automatically switched to the information regeneration mode and the input unit is disconnected when

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S/588/62/000/005/002/004  
1011/1242

Some features of the application...

the feeding is finished. Errors introduced by time and level quantizations are assumed to be not correlated. The ordinate value is rounded off to the nearest quantization level. This eliminates two errors; the third is minimized by a proper centerin of the process. An error of 0.3% remains. The evaluation of the time quantization error is quite cumbersome, and the common empirical value of 10 samples per period of the highest harmonic is chosen. In step (2) the following formulas are used:

$$R_x(\mu) \approx \frac{1}{N - \mu_{max}} \sum_{v=c}^{N - \mu_{max} - 1} x_v x_{v+\mu}; \quad 0 \leq \mu \leq \mu_{max}, \quad (19)$$

$$R_{xy}(\mu) \approx \frac{1}{N - \mu_{max}} \sum_{v=c}^{N - \mu_{max} - 1} y_v x_{v+\mu}; \quad 0 \leq \mu \leq \mu_{max}, \quad (20)$$

where N is the number of ordinates. A block diagram of the computing device is given and its operation explained. There is one feat-

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1011/1242

Some features of the application...

ure of special interest in the operation of the storage tubes: the electron beam "questions" the cells one by one, regenerating the information in a cell before proceeding to the next. This makes a higher density of cells possible. Investigation of errors shows that a 4% error in a correlation function allows for a 50:1 ratio between the highest and lowest frequencies in the process. No error is introduced by the finite number of ordinates when the correlation functions are to be used in integral equations. When they are used for other purposes this error will not exceed 1%. The over-all error up to this stage is ~ 5%. Step (3) is the solution of an integral relation of the form

$$\int_0^\infty R_{xx}(\tau-\lambda) k(\lambda) d\lambda = R_{yx}(\tau), \quad (31)$$

where  $R_{xx}(\tau-\lambda)$  is the input correlation function,  $R_{yx}(\tau)$  is the input-output cross-correlation function and  $k(t)$  is the unknown pulse response of the investigated system. This equation is solved by Valdenberg's method (Ref.7: *Automatika i telemekhanika*, 1958,

Card 4/5

S/588/62/000/005/002/004  
I011/I242

Some features of the application...

no.8). It is assumed that the kernel is symmetrical and has a positive-definite quadratic form. The integral equation is approximated by a set of algebraic equations with a positive-definite matrix whose main diagonal elements are positive. Gauss-Zeidel's iterative solution method is used. The introduction of a relaxation coefficient greatly reduces the number of approximations (from 1749 to 92). The input correlation function is scaled and smoothed out. A block diagram of the computing unit is given and its operation explained. The arithmetic unit used here is almost the same as that used in the previous step. Expected errors for kernels of the exponential type do not exceed 10%. An example of a control system with two correlated inputs and one output is given. It is shown that 5 correlation functions and 4 auxiliary integral transforms have to be computed; 4 integral equations have to be solved and auxiliary graphic constructions made. The duration of this operation on the YPAИ-1 (URAL-1) universal computer is 216 hours. This special device will shorten the time to 2-3 hours. There are 10 figures and 1 table.

Card 5/5

SOLODOVNIKOV, V.V.; MATVEYEV, P.S.; VAL'DENBERG, Yu.S.; BABURIN,  
V.M.; STROGANOV, L.P., inzh., red.; GORDEYEVA, L.P.,  
tekh. red.

[Computer techniques for use in statistical studies and  
calculations of automatic control systems] Vychislitel'-  
naia tekhnika v primeneni dlia statisticheskikh issledo-  
vani i raschetov sistem avtomaticheskogo upravleniia.  
Mashgiz, 1963. 166 p. (MIRA 16:5)  
(Automatic control) (Electronic computers)

BELOSTOTSKIY, A.A. (Moskva); VAL'DENBERG, Yu.S. (Moskva)

Statistical simulation of the operation of a section of a metallurgical concern. Izv. AN SSSR. Tekh. kib. no.6:38-46 N-D '64.  
(MIRA 18:3)

BELOSTOTSKIY, Anatoliy Avrumovich; VAL'DENBERG, Yuriy Stanislavovich;  
MERKUR'YEV, Leonid Ivanovich; ~~Prinimal uchastiye~~  
DAVYDOVSKIY, A.K.; SHENEBROT, I.M., red.

[Use of electronic computers in the automation of industrial  
processes] Primenenie vychislitel'nykh mashin dlia avtomati-  
zatsii proizvodstvennykh protsessov. Moskva, Energiia,  
1964. 238 p.  
(MIRA 17:12)

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**APPROVED FOR RELEASE: 08/31/2001**

**CIA-RDP86-00513R001858420009-4"**





BELOSTOTSKIY, A.A. (Moskva); VAL'DENBERG, Yu.'. (Moskva)

Optimization of a discrete industrial process by making a prediction  
analysis on a control computer. Avtom. i telem. 26 no.9:1514-1523  
S '65. (MIRA 18:10)

ACC NR: AM6004715

Monograph

UR/

Belostotskiy, Anatoliy Avrumovich; Val'denberg, Yuriy Stanislavovich;  
Merkur'yev, Leonid Ivanovich

Use of computers for the automation of production processes  
(Primeneniye vychislitel'nykh mashin dlya avtomatizatsii proiz-  
vodstvennykh protsessov) Moscow, Izd-vo "Energiya", 1964.  
238 p. illus., biblio. 9800 copies printed.

TOPIC TAGS: computer, automation equipment, industrial automation,  
automatic control system, automatic control, computer application

PURPOSE AND COVERAGE: The book is intended for a wide circle of  
technicians concerned with the automation of various production  
processes. It describes the basic problems involved in the use of  
computers for the control of these processes. Numerous examples taken  
from Soviet and foreign practice show the role and the position of  
control computers in different technological processes. Scientific  
and technical problems arising with the utilization of control  
computers, as well as trends in their development, are discussed.  
The main emphasis is placed on the use of control computers in  
chemistry, power engineering, metallurgy, and transportation. The  
introduction and chapters 1, 2 and 3 (except §§ 3-1 and 3-4) were  
written by Yu. S. Val'denberg, §§ 3-1 and 3-4 by A. K. Davydovskiy,

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UDC 681.140

ACC NR: AM6004715

chapter 4 (except §§ 4-5) and §§ 6-3, 6-5, and 6-6 by L.I. Merkur'yev, chapter 5 and §§ 4-5, 6-1, 6-2, and 6-4 and the appendix by A. A. Belostotskiy. Materials on Soviet control computers were furnished by V. M. Kagan, B. N. Malinovskiy, N. I. Borodin, and G. I. Gil'man.

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Appendix: Characteristics of foreign control computers -- 227

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SUB CODE: 09/ SUBM DATE: 14Nov64/

ORIG REF: 058/ OTH REF: 043/

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Concerning the nature of the  $L_g$  wave and its propagation in north-eastern Asia. Izv. AN SSSR. Ser. geofiz. no.1:3-24 Ja '61.

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Functional and morphological changes in the adrenal cortex and the adenohypophysis in malignant tumors. Vop. onk. 11 no.7: 27-33 '65. (MIRA 18:9)

1. Tallinskaya respublikanskaya bol'nitsa (glavnyy vrach - A.A. Roosilekht [Roosileht, A.]).

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Relationship between the Itsenko-Cushing syndrome and cancer of the thymus. Arkh. pat. 26 no.3:74-76 '64.

1. Tallin - respublikanskaya bol'nitsa (glavnyy vrach) (MIRA 18:12)  
A.A.Rozilekht [Roosileht, A.]).



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Is there life on other planets? Moskva, Izd. kosmicheskogo planetariia 1946. 32 p.  
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How to conduct popular lessons on astronomy Moskva Izd. Moskovskogo planetaarii  
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How scientists foretell natural phenomena. Moscow, Moskovskii rabochii, 1947.  
57 p. map. (Priroda i cheloved) (48-25140)

Q171.V25

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SO: U-4355, 14 August 53, (Letopis 'Zhurnal 'nykh Statey, No. 15, 1949)

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Electricity in modern engineering Moskva, Gos. energ. izd-vo, 1952 143 p.  
(52-68151)

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2. USSR (600)
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7. Electricity in contemporary technology. Moskva, Gosenergoizdat, 1952.
9. Monthly List of Russian Accessions, Library of Congress, February, 1953. Unclassified.

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Vis. v shkole 15 no.5:29-36 S-0 '55. (MIRA 9:1)  
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(Cosmology)



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MINA, G.A., red.; PERSON, M.N., tekhn. red.

[Electric engineering made interesting] Zanimatel'naya  
elektrotekhnika. Moskva, Vses. uchebno-pedagog. izd-vo  
Proftekhizdat, 1961. 273 p. (MIRA 14:5)  
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VAL'DGARD, Sergey Leonidovich, lektor i metodist; KOZINA, L.,  
red.; KUNETSKIY, V., red.; POKHLEBKINA, M., tekhn. red.

[How to deliver popular lecture on natural science] Kak  
chitat' nauchno-populiarnye lektsii po estestvoznaniyu.  
Moskva, Mosk. rabochii, 1963. 159 p. (MIRA 16:12)  
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BLINOV, E. I. (1964) *Trudy Vsesoyuznogo Nauchnogo  
Centra* 10: 1-10. (English translation in *Trudy  
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Centra 10: 1-10.  
Trudy Vsesoyuznogo Nauchnogo  
Centra 10: 1-10.

VALDINA, Ye.A.

Petrosternny golter. Vest. Khir. no.12:29-33 '61.

(MIRA 17:11)

1. Iz fakul'tetskoy khirurgicheskoy kliniki (zav. - prof. V.I. Kolesov) 1-go Leningradskogo meditsinskogo instituta imeni akademika Pavlova.

VALDISLAVLEV, V. S.

Author of book "Malelegirovannye Bystororezhushchiye Stali" (Low-alloy High-speed cutting steels).

Soviet Source: P: Vooruzheniye No. 5 - Mar 41

Moscow

Abstracted in USAF "Treasure Island", on file in Library of Congress, Air Information Division, Report No. 89387. Unclassified.

VAL-DMA, L.R.

25(2);18(7)

PHASE I BOOK EXPLOITATION

SOV/2496

Akademiya nauk SSSR. Institut mashinovedeniya

Treniye i iznos v mashinakh; sbornik 13 (Friction and Wear in Machinery; Collection 13) Moscow, Izd-vo AN SSSR, 1959. 266 p. Errata slip inserted. 3,000 copies printed.

Resp. Ed.: M.M. Khrushchev, Doctor of Technical Sciences, Professor; Ed. of Publishing House: M.A. Babichev; Tech. Ed.: T.V. Polyakova; Editorial Board: Ye.M. Gut'yar, Doctor of Technical Sciences, Professor; A.K. D'yachkov, Doctor of Technical Sciences, Professor; I.V. Kragel'skiy, Doctor of Technical Sciences, Professor; A.D. Kuritsyna, Candidate of Technical Sciences; L.Yu. Pruzhanskiy, Candidate of Technical Sciences; and M.M. Khrushchev, Doctor of Technical Sciences, Professor.

PURPOSE: The collection is intended for engineers, scientific research workers, and students working in the field of friction and wear in machinery.

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Friction (Cont.)

SOV/2496

COVERAGE: This collection of articles consists of excerpts from dissertations. Included are excerpts from the dissertations of Aspirants A.A. Soroko-Novitskiy, V.N. Marochkin, and L.B. Khrisanova of the Institut mashinovedeniya AN SSSR (Institute of Machine Construction, Academy of Sciences, USSR). The articles deal with the wear resistance of carbon steel; wear of plungers in fuel pumps, wear from faulty lubrication, friction and wear from the lubrication of sliding contact bearings with sulfuric acid, plastic deformation of tapered surfaces, oil-film generation in 120 -degree bearings with fluid friction, and pressures in oil film. Extensive bibliographies on friction, wear, and lubrication, compiled from Soviet and non-Soviet publications in 1955 [Supplement] and 1956, are presented. References follow several of the articles.

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Preface

3

1. Soroko-Novitskaya, A.A. Wear Resistance of Carbon Steel of Varying Structure  
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Friction (Cont.)

SOV/2496

The influence of the structure of heat-treated carbon steels on wear resistance during friction from fixed abrasives is discussed. The author concludes that the most wear-resistant carbon steel is that with a martensite structure. He further concludes that the presence of residual austenite in hyper-eutectoid steel lowers the wear resistance.

2. Val'dma, L.E. Wear of Metals With a Nonrenewable Abrasive Interlayer

19

The author presents a description and schematic diagram of a special testing apparatus for investigating the friction wear of a pair of plane metal disks separated by a layer of oil containing abrasive particles. The dependence of wear and the coefficient of friction on the hardness of the disks was established and shown in diagrams.

3. Tashkinov, G.A. Investigation of the Wear of Plungers and Liners in the Fuel Pump of a Diesel Engine

34

The author investigates plunger wear caused by the action of abrasive particles in the fuel. To retard this type of wear, he

Card 3/7

Friction (Cont.)

SOV/2496

recommends chromium coating of plungers.

4. Yelin, L.V. (Deceased). Mutual Penetration of Surface Layers of Metals as One of the Causes of Wear From Faulty Lubrication

48

The change in shape of contact surfaces of two bodies due to mutual displacement under loading is experimentally investigated. Samples used in the experiment had different mechanical properties. On these experiments the author bases his theory of the wear of hard bodies due to mutual penetration under pressure.

5. Lyalin, Ye.V. Investigation of Friction and Wear of Sliding Contact Bearings Lubricated With Sulfuric Acid

59

Experimental data for the design of machinery with rotary bearings lubricated with a lubricant containing 92 percent sulfuric acid are presented. The experimental installation is described. Friction moment, coefficients of friction and wear, and the rate of wear for bushings and shafts are determined. A simplified equation for the friction moment is derived.

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Friction (Cont.)

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6. Marochkin V.N. Limiting Plastic State at Yielding and Compression of the Frustum of a Cone 84  
Investigation is made of the axially symmetrical state of stress of a protrusion (simulated by the frustum of a cone) which is in a fully plastic state in the contact zone. Solution of the axially symmetrical-contact problem of the theory of plasticity is used as the basis of the study. The shortening of the frustum and the depth of its penetration with consideration of friction on the contact surface are determined, as well as the distribution of normal pressures and the hardness of material along the cone.
7. Zommer, E.F. Investigation of the Position of the Journal in the Bushing of a 120-degree Fluid Friction Bearing at Constant and Alternating Load 136  
A theoretical and experimental investigation was made. The experiments were conducted on a special testing machine with a bearing 60mm. in diameter and 40mm. long. The thickness of the lubricating film was determined by a variable-capacity transducer built into the journal.

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Friction (Cont.)

SOV/2496

8. Khrisanova, L.B. Measurement of Pressures in the Oil Film of a Sliding Contact Bearing 189  
Measurements were made with a semiconductor transducer. The work was done under the supervision of Professor A.K. Dyachkov, who in 1952 originated the concept of using semiconductors for such measurements.

9. Khrisanova, L.B. Analytical and Experimental Investigation of Pressure in the Oil Film of a Bearing With Crossed Axes of Shaft and Bushing 197  
The influence of the mutual inclination of the axes of the shaft and bushing on the capacity of the bearing is discussed. The pressures were measured by the method described in the preceding paper. A general method for calculating the capacity of bearings for various film thicknesses and arbitrary boundary shapes of the pressure zone is presented.

Card 6/7

SOV/2496

Friction (Cont.)

10. [Sobyanin, D.P., and V.S. Gashukov, Docents, Candidates of Technical Sciences, Machine Parts Department, Institute of Machine Construction] In Memory of D.V. Konvisarov 214  
Bibliography of the works of D.V. Konvisarov 216
11. Bibliography of Soviet and Non-Soviet Works on Friction, Wear, and Lubrication, Published in 1955 (Supplement to Bibliography Published in Collection XII) [Compiled by Ye. O. Vil'dt] 219
12. Bibliography of Soviet and Non-Soviet Works on Friction, Wear, and Lubrication, Published in 1956 [Compiled by Ye. O. Vil'dt] 242

AVAILABLE: Library of Congress

GO/jb  
11-4-59

Card 7/7

VALIDITY, I.E.

Wear of metals in the presence of a nonrenewable abrasive inter-  
layer. Tren. i izn. wash. no. 13:19-33 '59. (MIRA 12:10)  
(Mechanical wear)

VALDMA, M.M

USSR/Human and Animal Physiology. The Nervous System

T-12

Abs Jour : Ref Zhur - Biol., No 14, 1958, No 65758

Author : Valdma M.M.

Inst :

Title : The Conditioned Blinking Reflex in Goats

Orig Pub : Fiziol. zh. SSSR, 1957, 43, No 4, 358-363

Abstract : I.I. Korotkin's method for mechanopneumatic recording of blinking movements was employed. The recording apparatus and a pipette for the transmission of a current of air were attached to a bridle worn on the animal's head. A conditioned blinking response to a whistle appeared after 2 to 3 combinations and was reinforced after 6 to 32. Discrimination was established after 22 to 51 applications and was reinforced after 22 to 51. When the signal meaning of the conditioned stimuli was altered, the negative one acquired the value of the positive much more rapidly than the positive one acquired the negative significance.---V.I. Chumak

Card : 1/1

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VALDMA, R.

First successful steps. p.398

GAZ, WODA I TECHNIKA SANITARNA (Stowarzyszenie Naukowo-Techniczne Inzynierow i Technikow Sanitarnych Ogrzewnictwa i Garownictwa) Warszawa, Poland  
Vol.1B, no.9, Sept. 1958

Monthly list of East European Accession (EEAI) LC, Vol.9, no.2, Feb. 1960

Uncl.

*VAL'DMAN, A.*  
 AUTHOR: ZARIN, R., VAL'DMAN, A. PA - 2777  
 TITLE: The Influence Exercised by Feeding of Antibiotica on the Growth  
 of Chickens. (Vliyaniye skarmlivaniya antibiotikov na rost  
 tsyplyat, Russian)  
 PERIODICAL: Latvijas PSR Zinatnu Akad. Vestis, 1957, Vol. 1, Nr 3 (116)  
 pp 65-68 (U.S.S.R.)  
 Received: 5 / 1957 Reviewed: 7 / 1957

ABSTRACT: Leghorn chickens raised on a farm, from their 8th to their 35th day  
 of life, received 20 mg crystalline penicillin, 1 g adsorbent  
 (which contained 50  $\mu$ g vitamin B<sub>12</sub> and 15 mg biotin), 50  $\mu$ g  
 crystalline vitamin B<sub>12</sub> and 40 mg furacilin.  
 The result of this feeding was that the weight increase of the  
 chickens was higher by 23,8, 14,2, 12,1 and 4,3% respectively than  
 the weight increase of chickens of the control group which were not  
 given antibiotica. Expressed in percents, 96, 94, 92, 90% of the test  
 chickens remained alive against 85,6% of the chickens of the control  
 group. (4 Tables and 4 Citations from Slav Publications).

ASSOCIATION: Not given  
 PRESENTED BY:  
 SUBMITTED:  
 AVAILABLE: Library of Congress

Card 1/1

VALMAN, A.

Use of antibiotics and refuse of the antibiotic industry for feeding poultry and swine. p. 171.

BIOLOGIČESKĀJĀ MĀKĀ; SĒLSKOPU L LĒSĒŅU KKOZIALSTVS. (Latvijas PSR Zinatnu akademijs. Biologijas zinatnu nodala) Riga, Latvia, No. 3, 1957.

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August 1959.  
Uncla.

VALDEN, A.

Use of coniferous-needle and sedge flour for feeding agricultural animals and poultry. p. 175.

BIOLOGICHESKAIA NAUKA; SELSKOMU I LESKOMU KHOZIAISTVU. (Latvijas PSR Zinatnu akademijs. Biologijas zinatnu nodala) Riga, Latvia, No. 3, 1957.

Monthly list of East European Accessions (EEAI), ID, Vol. 8, No. 8,  
August 1959.  
Uncle.

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International Conference on Vitamins. Vestis Latv ak no.3:143-146 '61.

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Session on the use of biologically active preparations in  
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